

ABSTRACT

NULL DEEPENING FOR AN ADAPTIVE ANTENNA BASED
COMMUNICATION STATION

A method and apparatus is described for modifying a smart antenna processing
5 strategy determined from a set of signals received at an array of antenna elements of a
wireless station, such as a set of weights for processing received antenna signals or
forming a set of antenna signals for transmission. The method and apparatus uses the
signatures of one or more interferers to produce a modified processing strategy that
improves the nulling to the one or more interferers in that, when the modified strategy is
10 applied on the downlink, the transmit signal strength in the direction of the one or more
interferers is decreased, and, when the modified strategy is applied on the uplink, the
sensitivity to signals from the direction of the one or more interferers is decreased.

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